

Claims:

1. A device for reducing electrical noise during the transfer of data signals between media having a plurality of electrically conductive signal carrying elements, wherein
5 capacitive and inductive coupling due to the position of elements causes electrical noise in the signal, the device comprising:

(a) a dielectric support member;

(b) a means for receiving and transmitting signals from the signal carrying elements disposed on the support member; and

10 (c) a means for using the signals to produce a capacitance for reducing the electrical noise prior to transmitting the signals.

2. A device as recited in Claim 1, wherein the means for receiving and transmitting signals from the signal elements disposed on the support member comprises a plurality of
15 electrically conductive ports wherein each electrically conductive port is in electrical communication with one signal element of the plurality of signal elements.

3. A device as recited in Claim 1, wherein the means for using the signals to produce a capacitance for reducing the electrical noise in the signals comprises a plurality of
20 elongated electrically conductive members in a close positional relationship with respect to each other.

4. A device as recited in Claim 3, wherein at least one of the elongated electrically conductive members is associated with each port.

5. A device as in claim 1, wherein the means for using the signals to produce a capacitance for reducing the electrical noise in the signals comprises a printed circuit board having a plurality of electrically conductive members disposed in a pattern thereon such that a capacitance is formed.

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6. A device for reducing crosstalk noise in an insulation displacement contact connectable with media having a plurality of signal carrying elements with positive and negative polarity data signals, the device comprising:

(a) a dielectric support member;

(b) a plurality of elongated electrically conductive members disposed on the support member and in electrical communication with the insulation displacement contact for receiving the data signals, wherein the elongated members are in a positional relationship with respect to each to produce a capacitance for reducing the crosstalk noise.

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7. A device as recited in Claim 6, wherein one or more elongated members are operatively associated with each signal carrying element.

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8. A device as recited in Claim 7, wherein a substantially larger amount of elongated members associated with signal carrying elements of the same polarity are in a positional relationship to produce a capacitance than elongated members associated with signal carrying elements of opposing polarities.

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9. A device as recited in Claim 6, wherein the elongated members associated with signal carrying elements of the same polarity are in a positional relationship with respect to each other for forming a capacitance to strengthen the signal.

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10. A device as recited in Claim 6, wherein the plurality of elongated members are all substantially the same size and distance from each other.

5 11. A device as recited in Claim 6, wherein the media is unshielded twisted pair cable having eight signal carrying elements.

12. A system for reducing electrical noise during the transfer of data signals between media cables having signal carrying elements of negative and positive polarity, the system
10 comprising:

(a) an insulation displacement contact having a dielectric housing and a plurality of electrically conductive members disposed therein, wherein the electrically conductive members have engagement portions for connecting with the signal carrying elements associated with the media cables; and

15 (b) a printed circuit board having electrically conductive traces disposed thereon being connectable with the electrically conductive members, wherein the traces have portions in positional relationships with respect to each other for forming a capacitance.

13. A system as recited in Claim 12, wherein the elongated members associated with
20 signal carrying elements of similar polarity are in a positional relationship with respect to each other for forming a capacitance to strengthen the respective signal.

14. A system as recited in Claim 12, wherein there are eight conductive members.

15. A system as recited in Claim 14, wherein there are eight communication ports on the printed circuit board in electrical communication with the eight conductive members.

16. A system as recited in Claim 15, wherein each communication port is associated
5 with at least one trace disposed on the printed circuit board.

17. A system as recited in Claim 16, further comprising:

(a) traces in communication with port three in a positional relationship with traces in communication with port one and port five, wherein the relationship is sufficient for
10 forming a capacitance to reduce electrical noise in the associated signals;

(b) traces in communication with port seven in a positional relationship with traces in communication with port eight and port five, wherein the relationship is sufficient for forming a capacitance to reduce electrical noise in the associated signals;

(c) traces in communication with port six in a positional relationship with traces in
15 communication with port four and port eight, wherein the relationship is sufficient for forming a capacitance to reduce electrical noise in the associated signals; and

(d) traces in communication with port four in a positional relationship with traces in communication with port one and port two, wherein the relationship is sufficient for forming a capacitance to reduce electrical noise in the associated signals.

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18. A system as recited in Claim 12, wherein the positional relationships form a balanced voltage bridge of mutual capacitor reactance for compensating the electrical noise.

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